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PowPak™ Relay Module with Softswitch®

The PowPak™ Relay Module with Softswitch® is a radio frequency (RF) device that uses Lutron patented Softswitch® technology to control up to 16 A of general-purpose load based on input from Pico® controls and Radio Powr Savr™ occupancy and daylight sensors. An optional, low-voltage dry contact closure output is available to communicate occupancy status to 3rd-party systems such as HVAC controllers.

Communication with RF input devices, such as Pico® controls and Radio Powr Savr™ sensors, is accomplished using Lutron Clear Connect® RF Technology.

Features

- Softswitch®: Lutron patented technology prevents arcing of relay contacts, extending product lifetime
- Various operating voltages available — refer to model number chart below for details on voltage requirements
- Capable of switching 16 A of general-purpose loads
- Optional low-voltage dry contact closure output provides integration to building management systems, HVAC, VAV, etc.
- Receives wireless inputs from up to nine Pico® controls, six Radio Powr Savr™ occupancy/vacancy sensors, and one Radio Powr Savr™ daylight sensor
- Utilizes Lutron Clear Connect® RF Technology— refer to model number chart below for frequency band data
- Mounts to a junction box through a standard half-inch (NPT trade size) knockout
- Complies with requirements for use in a compartment handling environmental air (plenum) per NEC® 2011 300.22(C)(3)
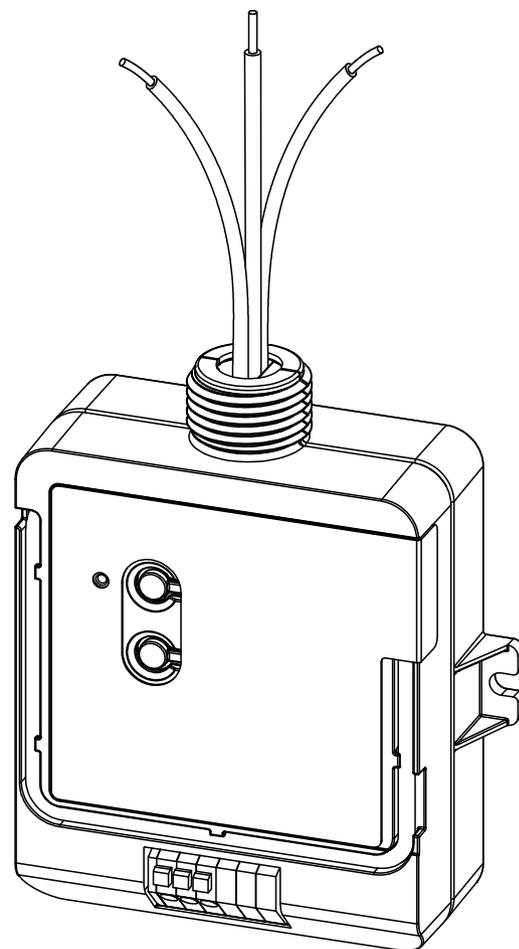
Description	Model Number	Operating Voltage	Frequency Band	Region
PowPak™ Relay Module with Softswitch®	RMJ-16R-DV-B	120 / 277 V∼	431.0 – 437.0 MHz	U.S.A., Canada, Mexico
	URMJ-16R-DVB	120 / 277 V∼	431.0 – 437.0 MHz	U.S.A., Canada, Mexico (BAA Compliant)
	RMQ-16R-DV-B	220-240 V∼	433.05 – 434.79 MHz	Hong Kong
	RMM-16R-DV-B	220-240 V∼	868.125 – 868.475 MHz	China and Singapore
PowPak™ Relay Module with Softswitch® and Occupancy-Status CCO	RMJ-16RCCO1-DV-B	120 / 277 V∼	431.0 – 437.0 MHz	U.S.A., Canada, Mexico
	URMJ-16RCCO1-DVB	120 / 277 V∼	431.0 – 437.0 MHz	U.S.A., Canada, Mexico
	RMQ-16RCCO1-DV-B	220-240 V∼	433.05 – 434.79 MHz	Hong Kong
	RMM-16RCCO1-DV-B	220-240 V∼	868.125 – 868.475 MHz	China and Singapore

NOTE: Contact Lutron for frequency band compatibility for your geographic region if it is not indicated above.

✷**LUTRON**®   SPECIFICATION SUBMITTAL   Page

Job Name:	Model Numbers:
Job Number:	

Specifications

Regulatory Approvals

RMJ- models only

- UL Listed
- UL 2043 Plenum Rated
- FCC approved. Complies with the limits for a Class B device, pursuant to Part 15 of the FCC rules.
- CSA and IC
- COFETEL
- NOM

Power

- Operating voltage:
  RMJ & URMJ- models 120/277 V∼ 50/60 Hz
  RMQ- models 220-240 V∼ 50/60 Hz
  RMM- models 220-240 V∼ 50/60 Hz

System Communication

- Operates using Clear Connect® RF Technology for reliable wireless communication; refer to model number chart on page 1 for band frequency details
- RF range is 30 ft (10 m)

Environment

- Ambient operating temperature: 32 °F to 131 °F (0 °C to 55 °C)
- 0% to 90% humidity, non-condensing
- For indoor use only

Softswitch®

- Patented Softswitch® circuit eliminates relay arcing at mechanical contacts
- Extends relay life to an average of 1 million cycles
- Output is non-latching

Load

- Maximum load: 16 A general purpose. No minimum load requirements.
- Load types include (but are not limited to): Incandescent, MLV, ELV, Resistive, Inductive, Magnetic fluorescent, Electronic fluorescent
- Motor rating:
  RMJ & URMJ- models 0.5 HP (120 V∼), 1.5 HP (277 V∼)
  RMQ- models 1.5 HP (220-240 V∼)
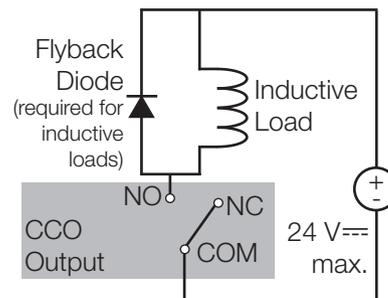 **RMM- models** 1.5 HP (220-240 V∼)

Key Design Features

- LED status indicator shows current load status and provides programming feedback
- Power failure memory: If power is interrupted, connected loads will return to the previous level prior to interruption
- Daylighting can be overridden by pressing the ON button on any associated Pico®
  – Daylighting will be re-enabled after 2 hours or after the area becomes unoccupied

Contact Closure Output (CCO version only)

- Provides occupancy status to 3rd-party equipment such as building management systems, HVAC, and VAV controllers
- Provides both normally open (NO) and normally closed (NC) dry contacts
- Maintained output type
- CCO terminals accept 20 to 16 AWG (0.5 to 1.5 mm^2) solid or stranded wire
- Output is latching
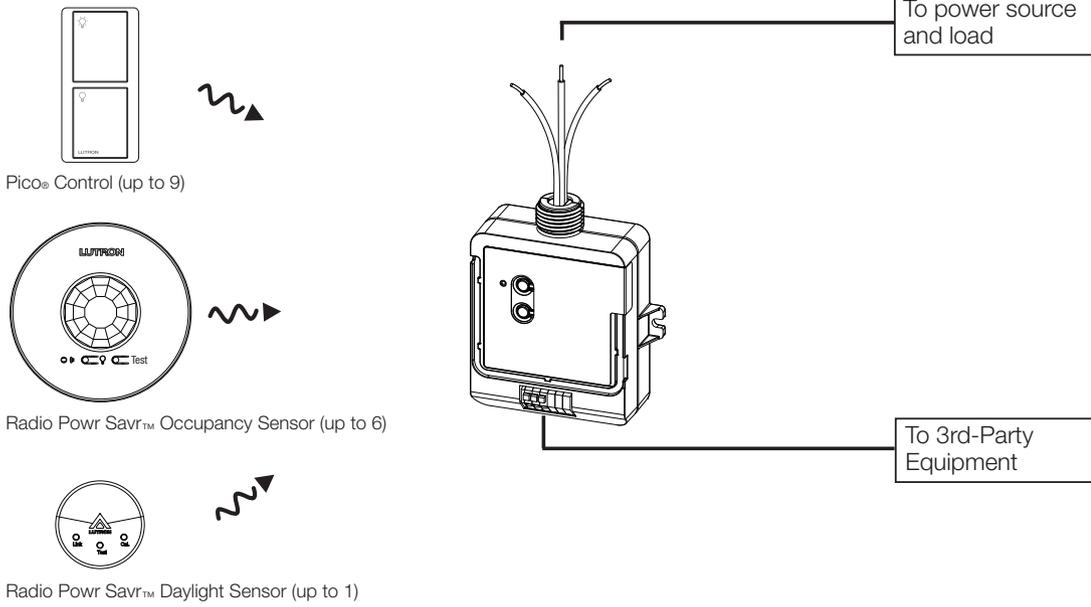- Not for voltages greater than 24 V

Switching Voltage	Resistive Load
0-24 V⎓	1.0 A
0-24 V∼	0.5 A

- The CCO is not rated to control unclamped, inductive loads. Inductive loads include, but are not limited to, relays, solenoids, and motors. To control these types of equipment, a flyback diode must be used (DC voltages only). See diagram below. For more information, please see Application Note #434 (p/n 048434).
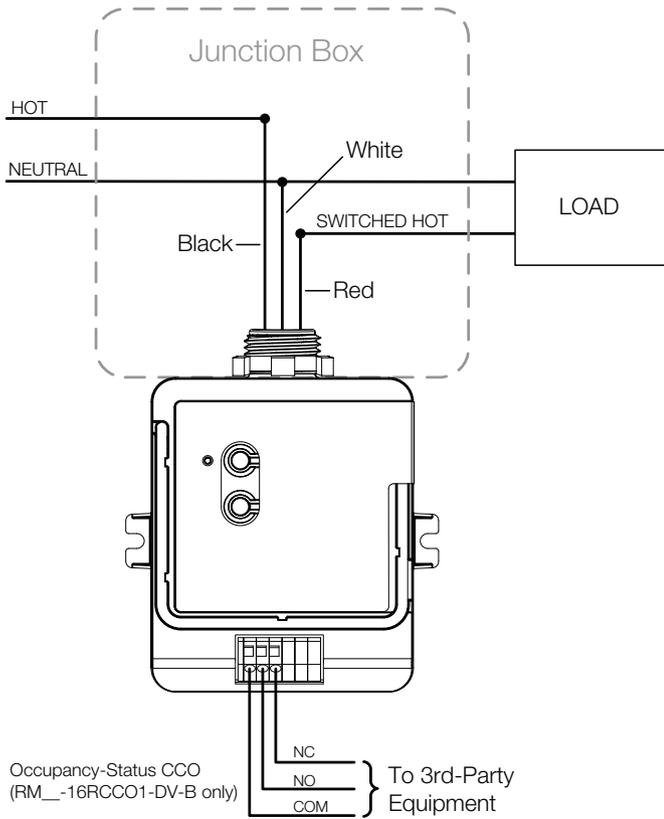
Job Name:	Model Numbers:
Job Number:	

System Diagram

Pico® Control (up to 9)

Radio Powr Savr™ Occupancy Sensor (up to 6)

Radio Powr Savr™ Daylight Sensor (up to 1)

To power source and load

To 3rd-Party Equipment

Wiring Diagram

Junction Box

HOT

NEUTRAL

White

Black

LOAD

SWITCHED HOT

Red

Occupancy-Status CCO
(RM__-16RCCO1-DV-B only)

NC

NO

COM

To 3rd-Party Equipment

Job Name:	Model Numbers:
Job Number:	

Wiring Diagram

Input Voltage

White (Neutral)

To Load

Red (Switched Hot)

Black (Hot)

Conduit Nut

COM (Common)

NO (Normally Open)

NC (Normally Closed)

To 3rd Party Equipment

NOTE: When wiring CCO to 3rd-party systems, use 20 to 16 AWG (0.5 to 1.5 mm²) solid or stranded wire.
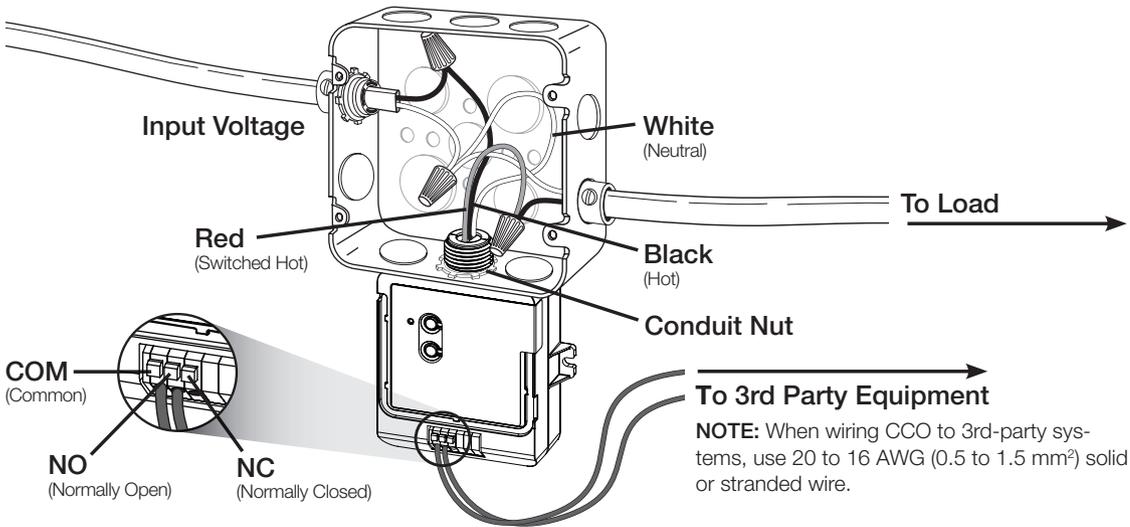
CCO operation affected only by associated occupancy or vacancy sensors.
Room Occupied: NO = Close   NC = Open
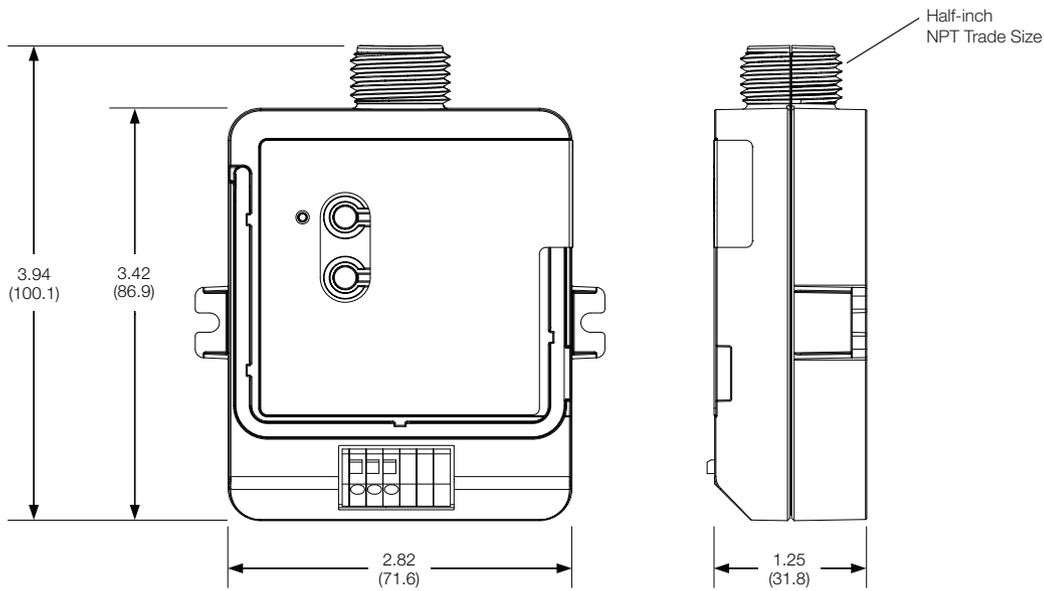**Room Unoccupied:** NO = Open   NC = Close

In some applications, a PowPak™ module can be installed inside a 4 in x 4 in (102 mm x 102 mm) junction box. For information about how to perform this installation, please see Application Note #423 (p/n 048423).
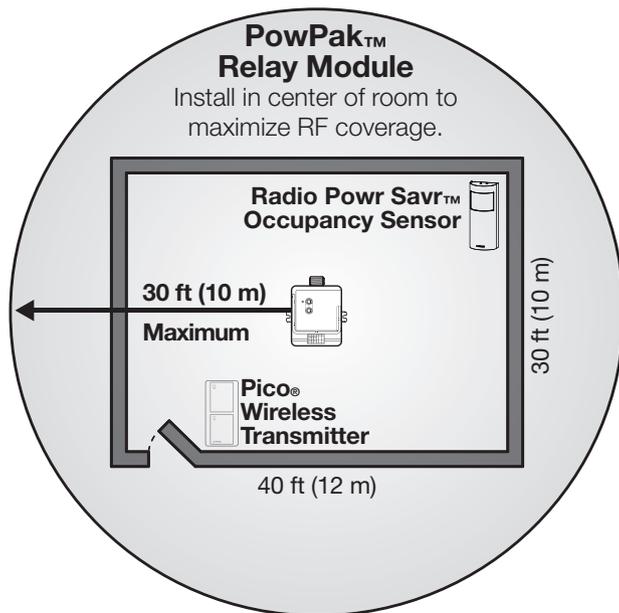
BOX A

Antenna

BOX B

PowPak™ Installation Inside Junction Box
(Dimming Module RMJ-ECO32-DV-B shown)
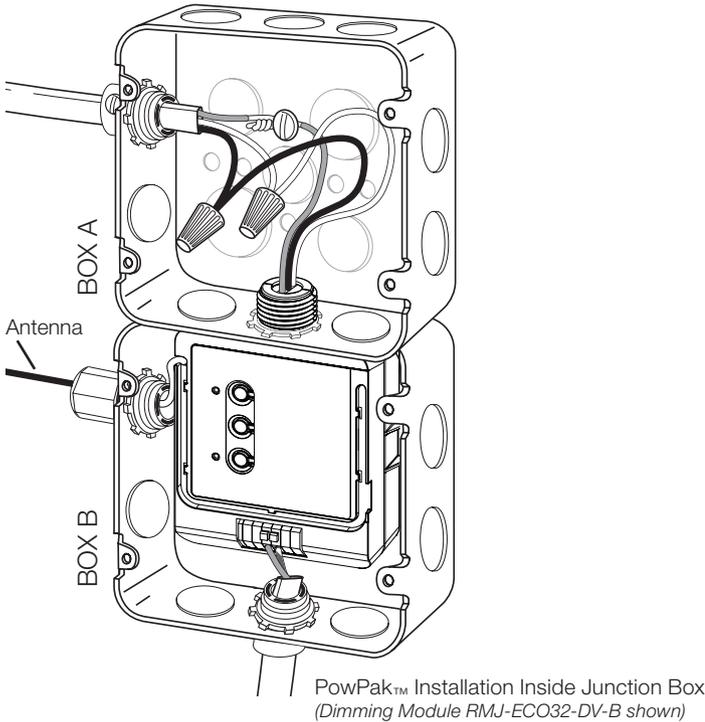
Job Name:	Model Numbers:
Job Number:	

Dimensions

Dimensions are shown as: in (mm)

Half-inch
NPT Trade Size

3.94
(100.1)

3.42
(86.9)

2.82
(71.6)

1.25
(31.8)

Range Diagram

**PowPak™
Relay Module**
Install in center of room to
maximize RF coverage.

**Radio Powr Savr™
Occupancy Sensor**

30 ft (10 m)

Maximum

30 ft (10 m)

**Pico®
Wireless
Transmitter**

40 ft (12 m)

**All Wireless Transmitters must be installed within
30 ft (10 m) of the PowPak™ Relay Module.**

• Contact Lutron first for applications using foil-backed or metallic ceiling tiles.

Job Name:	Model Numbers:
Job Number:	

Default Operation

Transmitting Device	Transmitted Command	Softswitch® Relay Default Action	CCO Default Action
Pico® Wireless Control	On	Close	No Action
	Off	Open	No Action
	Raise	No Action	No Action
	Lower	No Action	No Action
	Preset	Close	No Action
Radio Powr SavrTM Occupancy Sensor	Occupied	Close	NO = Close, NC = Open
	Unoccupied	Open	NO = Open, NC = Close
Radio Powr SavrTM Vacancy Sensor	Occupied	No Action	NO = Close, NC = Open
	Unoccupied	Open	NO = Open, NC = Close
Radio Powr SavrTM Daylight Sensor	Ambient Light Below Target Level	Close	No Action
	Ambient Light Above Target Level	Open	No Action

Job Name:	Model Numbers:
Job Number:	